Examining Statistics

Examine the data about the NBA regular season, 2008-2009, answer the following questions.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| TEAM | W | L | PCT | GB | CONF  (w-l) | Points scored | Points against |
| Cleveland | 66 | 16 | 0.805 | - | 40-12 | 100.3 | 91.4 |
| LA Lakers | 65 | 17 | 0.793 | 1 | 44-8 | 106.9 | 99.3 |
| Boston | 62 | 20 | 0.756 | 4 | 41-11 | 100.9 | 93.4 |
| Denver | 54 | 28 | 0.659 | 12 | 35-17 | 104.3 | 100.9 |
| Orlando | 59 | 23 | 0.72 | 7 | 37-15 | 101 | 94.4 |
| San Antonio | 54 | 28 | 0.659 | 12 | 36-16 | 97 | 93.3 |
| Portland | 54 | 28 | 0.659 | 12 | 32-20 | 99.4 | 94.1 |
| Atlanta | 47 | 35 | 0.573 | 19 | 30-22 | 98.1 | 96.5 |
| Houston | 53 | 29 | 0.646 | 13 | 35-17 | 98.4 | 94.4 |
| Miami | 43 | 39 | 0.524 | 23 | 28-24 | 98.3 | 98 |
| Dallas | 50 | 32 | 0.61 | 16 | 29-23 | 101.7 | 99.8 |
| Philadelphia | 41 | 41 | 0.5 | 25 | 25-27 | 97.4 | 97.3 |
| New Orleans | 49 | 33 | 0.598 | 17 | 30-22 | 95.8 | 94.3 |
| Chicago | 41 | 41 | 0.5 | 25 | 24-28 | 102.2 | 102.5 |
| Utah | 48 | 34 | 0.585 | 18 | 33-19 | 103.6 | 100.9 |
| Detroit | 39 | 43 | 0.476 | 27 | 26-26 | 94.2 | 94.7 |
| Phoenix | 46 | 36 | 0.561 | 20 | 30-22 | 109.4 | 107.5 |
| Indiana | 36 | 46 | 0.439 | 30 | 23-29 | 105.1 | 106.2 |
| Charlotte | 35 | 47 | 0.427 | 31 | 20-32 | 93.6 | 94.9 |
| Golden State | 29 | 53 | 0.354 | 37 | 18-34 | 108.6 | 112.3 |
| New Jersey | 34 | 48 | 0.415 | 32 | 23-29 | 98.1 | 100.5 |
| Minnesota | 24 | 58 | 0.293 | 42 | 13-39 | 97.8 | 102.7 |
| Milwaukee | 34 | 48 | 0.415 | 32 | 21-31 | 99.3 | 100.4 |
| Memphis | 24 | 58 | 0.293 | 42 | 14-38 | 93.9 | 99.3 |
| Toronto | 33 | 49 | 0.402 | 33 | 22-30 | 99 | 101.9 |
| Oklahoma City | 23 | 59 | 0.28 | 43 | 15-37 | 97 | 103.1 |
| New York | 32 | 50 | 0.39 | 34 | 20-32 | 105.2 | 107.8 |
| LA Clippers | 19 | 63 | 0.232 | 47 | Oct-42 | 95.1 | 103.9 |
| Washington | 19 | 63 | 0.232 | 47 | Oct-42 | 96.1 | 103.5 |
| Sacramento | 17 | 65 | 0.207 | 49 | 16-36 | 100.6 | 109.3 |

1. Create a box and whisker plot for wins for all teams in the NBA.



1. What is the minimum value for all wins?
2. What is the maximum value?
3. What is the 1st quartile?
4. What is the 3rd quartile?
5. What is the median?
6. What do 1-6 tell you about the “winning-ness” of the NBA last year?
7. Create a graph that compares conference wins to game wins.



1. Is there a relationship between conference wins and all wins?
2. Pick another aspect of the data to make a box-and-whiskers plot about.
3. Pick two pieces of data to compare in a scatterplot.
4. Read the following article. Then describe the nature of the study, what it was looking at, and how it used statistics. What data did they use? Do you think the conclusions were correct? Write at least 2 paragraphs.

**Most Stay-at-Home Moms Start That Way, Study Finds**  
Many Are Younger, Less Educated, Hispanic

By Donna St. George  
Washington Post Staff Writer  
Thursday, October 1, 2009

A first census snapshot of married women who stay home to raise their children shows that the popular obsession with high-achieving professional mothers sidelining careers for family life is largely beside the point.

Instead, census statistics released Thursday show that stay-at-home mothers tend to be younger and less educated, with lower family incomes. They are more likely than other mothers to be Hispanic or foreign-born.

Census researchers said the new report is the first of its kind and was spurred by interest in the so-called "opt-out revolution" among well-educated women said to be leaving the workforce to care for children at home.

"I do think there is a small population, a very small population, that is opting out, but with the nationally representative data, we're just not seeing that," said Diana B. Elliott, a family demographer who is co-author of the U.S. Census Bureau report.

The report showed that mothering full time at home is a widespread phenomenon, including 5.6 million women, or nearly one in four married mothers with children younger than 15. By comparison, the country's stay-at-home dads number 165,000.

Researchers noted that the somewhat younger ages of stay-at-home mothers could partly explain their lower education levels and that less family income would be expected with just one parent in the workforce.

Even so, the profile of mothers at home that emerged is clearly at odds with the popular discussion that has flourished in recent years, they said.

The notion of an opt-out revolution took shape in 2003, when New York Times writer Lisa Belkin coined the term to describe the choices made by a group of high-achieving Princeton women who left the fast track after they had children.

It has since been the subject of public debate, academic study and media obsession. It has been derided as a myth but has never quite gone away in an era when women still struggle to balance work and family and motherhood's conflicts have been parodied and probed in everything from Judith Warner's book "Perfect Madness" to television's "Desperate Housewives" and "The Secret Life of a Soccer Mom."

The census statistics show, for example, that the educational level of nearly one in five mothers at home was less than a high school degree, as compared with one in 12 other mothers. Thirty two percent of moms at home have at least a bachelor's degree, compared with 38 percent of other mothers.

Twelve percent of stay-at-home moms live below the poverty line, compared with 5 percent of other mothers. On the other end of the economic scale, about one-third of moms at home had family incomes of $75,000 a year or more, whereas roughly half of other mothers did.

Given this portrait, mothers at home appear to be "the more vulnerable women, for whom I would argue the issue is lack of opportunity," said sociologist Pamela Stone of Hunter College. "They have a hard time finding a job and finding a job that makes work worth it."

This may well be illuminating for many observers of family life, she said, because "the attention is always focused on this erroneous perception about the women at the top."

Stone, who studied successful women who left their careers for a 2007 book called "Opting Out?," said some shift course and focus on their children but "not at the numbers people think. Even among this advantaged group, there is no upward trend of staying at home."

The census report was based on nationally representative data from 2007, predating the current economic crisis.

Kathleen Gerson, a sociologist at New York University who studies families and the labor market, said the census figures come as a reality check.

Opting out, she said, "is not and never has been and will not be a revolution," she said. "Far more women are in the workplace than not, and there is no evidence to show that that will turn around."

For many women who stay home, low earnings and high child-care costs are part of the decision, she said. "Women with less education and fewer job opportunities were always more likely to withdraw or not be in the labor force," Gerson said. "The economic calculus is different."

The report did not show a proportionately high number of married African American mothers staying at home, but Kuae Mattox, a national board member of Mocha Moms, a nonprofit support organization for stay-at-home mothers of color, said she sees "a quiet revolution" of highly educated, professional African American women choosing to do so. This comes in spite of long family histories of women working, she said.

"I think this is a segment of the population that has been overlooked in the whole opt-out revolution in this country," she said.

The report showed that about 27 percent of stay-at-home mothers were Hispanic, compared with 16 percent of other mothers, and about 34 percent were born outside the United States, as compared with 19 percent of other mothers.

Stay-at-home mothers were more likely than other mothers to have an infant or preschooler in the house.

For the report, stay-at-home mothers were defined as those who did not work in the previous year, said they were home to care for their families and had a husband employed all 52 weeks.

Historically, the Census Bureau's annual population survey shows that there are more mothers at home now than in the mid-1990s.

In 1994, 19.8 percent of married-couple families with children younger than 15 had a stay-at-home mother. Last year, it was 23.7 percent of families -- an increase that Elliott said was statistically significant. "I don't think we exactly know why," she said.

In other findings, the census reported that 54 percent of District households with children younger than 18 were headed by single parents. In Maryland, 26 percent of such families were headed by single parents. In Virginia, the figure was 25 percent.